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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,690	01/29/2004	Gary W. Matula	HES 2003-IP-012771U1	5580

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EXAMINER

WOOD, ELIZABETH D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/767,690

Applicant(s)

MATULA ET AL.

Examiner

Elizabeth D. Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-29, 35, 37 and 38 is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 11-17, 19, 30-34, 36 and 39-44 is/are rejected.
- 7) ☒ Claim(s) 2, 6-10, 18, 20, 45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Specification

The examiner has not checked the specification to the extent necessary to determine the presence of **all** possible minor errors (grammatical, typographical and idiomatic). Cooperation of the applicant(s) is requested in correcting any errors of which applicant(s) may become aware of in the specification, in the claims and in any future amendment(s) that applicant(s) may file.

Applicant(s) is also requested to complete the status of any copending applications referred to in the specification by their Attorney Docket Number or Application Serial Number, **if any**.

The status of the parent application(s) and/or any other application(s) cross-referenced to this application, **if any**, should be updated in a timely manner.

Claim Interpretation

Applicants should note that claims 7 and 24 are not being rejected but are being interpreted by the examiner as follows: "about 0%" does **not** include zero because if it did, the claims would not further limit the claims from which they depend.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 30-34 and 39-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30-34 and 36 are indefinite in the language "being capable of forming" because it is indeterminable how the composition can perform this function.

Claims 39-43 are indefinite in that they fail to identify any components of the composition. Composition claims were held to be indefinite for being defined in terms of properties alone. Ex parte Slob, 157 U.S.P.Q. 172.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-5, 11-17, 19 and 39-43 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a grout composition (or method of use thereof) comprising calcium bentonite, sodium bentonite, silica material and a carbon source, does not reasonably provide enablement for claims merely reciting the thermal conductivity of the grout. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The claims are not commensurate in scope with the enabling disclosure because they could embrace myriad compositions neither disclosed nor contemplated by applicant. It would require undue experimentation by the artisan in possession of this disclosure to determine the scope of these claims.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 4, 5, 11-17, 19 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,251,170 to Allan.

The instantly claimed invention recites a group composition/slurry and method for the use thereof for ground heat transfer loops.

The rejected claims recite the thermal conductivity of the material as greater than about 1.4 Btu/hr-ft-F to about greater than about 1.6 Btu/hr-ft-F.

The reference teaches a grout composition for use in a heat pump wherein the average thermal conductivity of the disclosed material is 1.40 Btu./hr.ft.F and discloses up to 1.463 Btu/hr-ft-F.

The instant claims are anticipated by this disclosure because the examiner considers 1.4 to be indistinguishable from "about 1.4". This position is supported by the reference which mentions a drop from 1.4 to 1.25 is "slight".

Alternately, the claims would have been considered obvious. Clearly the instant claims would have been obvious because there appears no patentable or statistical difference between 1.4 and 1.6, particularly in view of the reference characterizing the difference between 1.4 and 1.25 as "slight".

See particularly column 1, column 3, line 51-55, column 4, and lines 39+ - column 5, line 7.

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Any minor differences in the limitations of the dependent claims have been considered. This statement is meant to include limitations such as the hydraulic conductivity of the claimed material, which the examiner considers to be inherent to the slurry. This statement is further meant to include limitations such as the use of dispersants. Clearly the skilled artisan would have found it obvious to add known substance for known functions.

Furthermore, any such differences are deemed to be result-effective variables that one of ordinary skill in the art would be expected to manipulate to advantage. Additionally, such limitations can be considered to have been simply known as conventional to the artisan practicing in the art at the time the invention was made and/or were common practices which were so well known in the art that they would have been taken for granted. MPEP 706.02(a).

If applicants believe that one or more limitations are critical to the invention, then applicant should amend the claims to reflect such critical limitations as well as indicate where in the specification such critical limitations were discussed and demonstrated.

The limitations of all claims have been considered and are deemed to be within the purview of the prior art.

Claim Objections

Claims 2, 6-10, 18 20 and 45 are objected to as being dependent upon a rejected base claim.

Allowable Subject Matter

Claims 21-29, 35, 37 and 38 are allowable over the prior art of record. This application contains allowable subject matter because the prior art of record, either alone or in combination, fails to teach or suggest the specifically claimed composition as set forth in claim 21.

Conclusion

Applicants are advised that any evidence to be provided under 37 CFR 1.131 or 1.132 and any amendments to the claims and specification should be submitted prior to final rejection to be considered timely. It is anticipated that the next office action will be a final rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth D. Wood whose telephone number is 571-272-1377. The examiner can normally be reached on M-F, 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 571-272-1364. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elizabeth D. Wood
Primary Examiner
Art Unit 1755

edw